

**FUNDING HIGH-POVERTY SCHOOL
DISTRICTS: FEDERAL POLICY TOOLS
AND THE LIMITS OF INCENTIVES**

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Abstract

What can the federal government do to help ensure that the public schools attended by children living in poverty have enough resources to serve their students? In this brief, we describe existing federal efforts to support education spending in high-poverty districts, discuss their limitations, and suggest alternative approaches for federal policy. We focus especially on the Education Finance Incentive Grant (EFIG) formula—a part of the compensatory Title I grant program designed to encourage changes to state school finance policy—and show that the incentives embedded in the formula are in fact negligible; revising the formula to be more effective would be difficult. Further, any attempt to incentivize desirable state policy faces a fundamental trade-off: Such policy can reinforce inequality because districts in states that do not respond to the incentives by adopting desirable policies also do not receive (as much) federal funding. We argue that federal policy should be more attentive to state fiscal capacity because it is an important determinant of district-level school spending, and the federal government is uniquely positioned to address between-state inequality.

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INTRODUCTION

Public policies that influence the amount and distribution of funding for elementary and secondary schools are important policy levers even if there is no consensus on exactly how much funding is needed and the best way to spend school funds. Funding available in the schools attended by children living in poverty is of particular interest: To help equalize opportunity, higher-poverty schools need to offer more opportunities to learn. In this brief, we discuss the federal role—what it has been and what it could be—in funding schools attended by children living in poverty, with particular attention to a federal effort to incentivize changes to state policies.

Efforts to increase equity in school finance generally focus on the states, but federal policy makers are intrigued by the idea of making the most of their limited budget. Can federal grants be designed to change how much state and local governments spend on schools, leveraging limited federal funds into bigger changes in the level and distribution of school spending? This brief analyzes a policy designed to do just that, the Education Finance Incentive Grant (EFIG) formula of Title I of the Elementary and Secondary Education Act (ESEA).

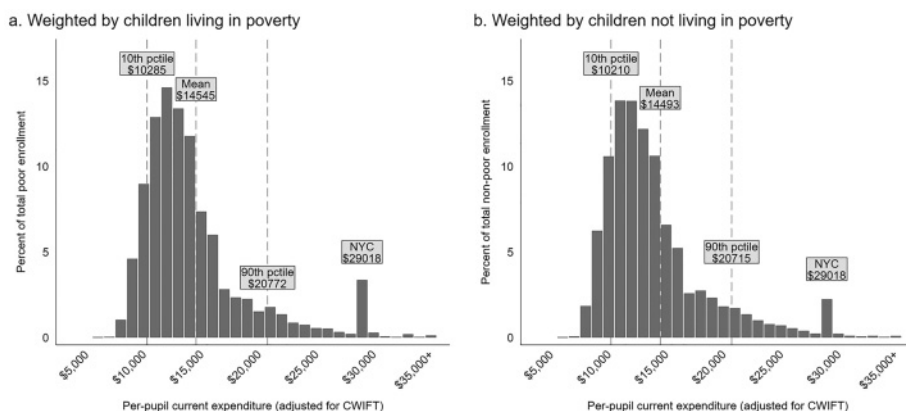
Title I is a federal “compensatory education” program that makes grants to districts mainly based on child poverty. EFIG is one of four statutory formulas determining how Title I funds are allocated and currently accounts for about a quarter of Title I dollars. We focus on EFIG because of its explicit goal to change the incentives that state policy makers face. The effectiveness of the incentives in EFIG is inherently limited by the small size of the program—there is simply not that much money at stake. For FY 2020, EFIG accounted for 7 percent of federal aid and only half of one percent of total revenue to school districts.

We describe how the formula’s incentives are negligible and should not be expected to yield more, or more equitable, state spending on schools. For example, the formula’s “Effort Factor” is meant to encourage more spending from state and local sources, but a 1 percent increase in combined state and local funding would have no impact on the Effort Factor in thirty-five states. The largest implicit match rate would be in Mississippi, where each additional dollar of state and local funds would be matched with just one and a half cents more of EFIG funds.

What else might federal policy makers do to increase funding in high-poverty schools? We discuss why designing a formula with stronger incentives would be difficult. More generally, this type of approach faces a fundamental tension between two goals—rewarding “good” state policies as an incentive, and directly supporting districts in need because their states have “bad” policies. In addition, state fiscal capacity is at least as important for spending in schools attended by students living in poverty as which type of school finance system their state adopts. We argue federal policy makers should be more attentive to state fiscal capacity, in addition to indicators of student need, in designing education grant programs.

HOW SCHOOL SPENDING VARIES ACROSS DISTRICTS

Federal education grants aim to change the distribution of resources, both directly by distributing funds and, in the case of EFIG, indirectly by changing the level and distribution of state and local funding. To better understand the problem these programs



Notes: Panel a shows the distribution of per pupil current expenditure for 2019–20 at the school-district level, adjusted for using the Comparable Wage Index for Teachers (CWIFT) weighted by the number of children living in poverty; panel b shows the distribution weighted by children not living in poverty. See the Data Appendix (available in a separate online appendix that can be accessed on *Education Finance and Policy's* Web site at https://doi.org/10.1162/edfp_a_00408) for variable definitions and sources.

Figure 1. The Distributions of per Pupil School Spending Experienced by Children Living in Poverty and by Children Not Living in Poverty Are Virtually Indistinguishable

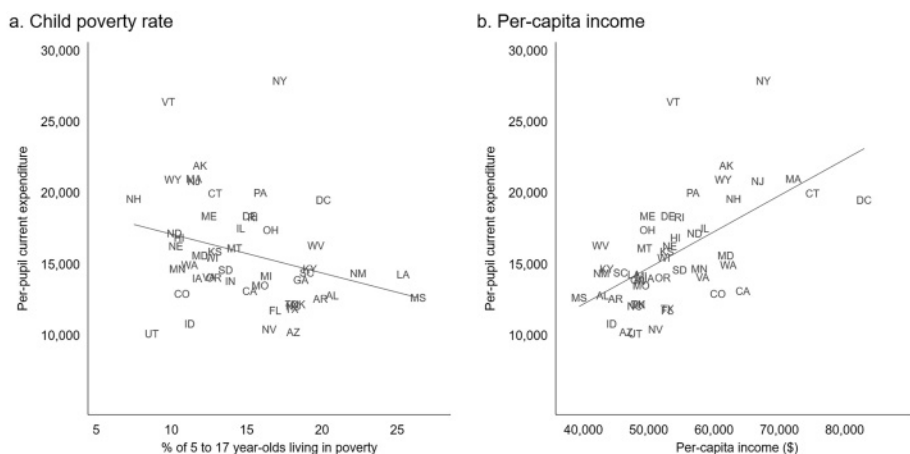
are attempting to address, we first review how and why school spending varies across school districts and states.

Local Variation in School Funding and Child Poverty

The average school district in 2019–20 spent about \$14,500 per pupil, but there was substantial variation: Ten percent of students were in school districts that spent less than \$10,300 per pupil, and 10 percent were in districts that spent more than twice as much as the average. Variation is not bad per se: indeed, an equitable distribution of funding would allow higher-poverty districts to spend more than lower-poverty districts. Historically, per pupil spending was systematically lower in higher-poverty districts, and many continue to be concerned that high-poverty school districts are underfunded. But figure 1 shows that variation in per pupil funding is not strongly related to poverty rates either way: The distribution of spending experienced by children living in poverty (figure 1a) is nearly indistinguishable from that of children not living in poverty (figure 1b).

The Role of the States

Research and policy have often focused on within-state differences in per pupil spending, but variation in per pupil spending across districts has an important state-level component: Districts in the highest-spending states spend more than twice as much per pupil as those in low-spending states. Figure 2a shows that average spending experienced by children living in poverty is lower in higher-poverty states: An increase of about 4.2 percentage points in a state’s child poverty rate (one standard deviation) is associated with a reduction in its per pupil spending of about \$1,100. But there is also significant variation in spending conditional on child poverty: For example, Massachusetts and Colorado have similar child poverty rates, but districts in Massachusetts spend about 60 percent more than in Colorado.



Notes: The vertical axis shows school-district level per pupil current expenditure for 2019–20, adjusted using Comparable Wage Index for Teachers (CWIFT) and weighted by the number of children living in poverty. See the online appendix for variable definitions and sources. The R^2 in panel b (between per capita income and spending) is 0.341, while in panel a (between child poverty and spending) it is only 0.034. The per capita income has not been adjusted for differences in wages, while the per pupil expenditure has. The R^2 of a regression of per pupil current expenditure without adjustment on per capita income is even higher, at 0.597.

Figure 2. Average per Pupil Spending Experienced by Children Living in Poverty Is More Strongly Correlated with per Capita Income Than with the Child Poverty Rate

An important reason that districts in higher-poverty states spend less is because their states have smaller tax bases. Figure 2b shows the correlation between state fiscal capacity, proxied by per capita income, and school spending for children living in poverty is much stronger than the poverty-spending correlation in the first panel. An increase of about \$8,800 in per capita income (again, one standard deviation) is associated with an additional \$2,200 in per pupil spending.

THE FEDERAL SCHOOL FINANCE TOOLKIT

The bulk of federal funding for elementary and secondary education is distributed directly as grants to state and local agencies. Title I of ESEA (“education for the disadvantaged”) and the Individuals with Disabilities Education Act (“special education”) together constitute nearly three quarters of the U.S. Department of Education’s elementary and secondary spending, accounting for over \$30 billion (U.S. Department of Education 2022). Both programs determine district-level allocations using formulas based in large part on school-aged children living in poverty. Federal grants could influence school spending for children experiencing poverty directly (increasing federal revenue to increase total revenue), and/or indirectly by altering incentives for spending on schools from state and local revenue.

Direct Effects of Federal Grants on Spending

The primary goal of federal grants is to support spending on targeted populations or services. But even the seemingly straightforward idea of increasing how much school districts spend by giving them money faces obstacles.

State and/or local governments may reduce their own fiscal effort when they receive federal funds, “crowding out” part or all of the new revenue, such that increases in total

spending are smaller than the grant. Evidence on crowd-out is mixed (Gordon 2004; Cascio et al. 2013), but suggests that federal funding increases spending in the targeted districts at least somewhat. Federal policy makers should continue to make grants to districts despite the likelihood that federal funding will be partially offset by reductions in state or local funding. Federal grants can increase spending in high-poverty districts, and only federal programs can address cross-state spending gaps, a major source of inequality in school spending.

The between-state differences in average spending shown in figure 2 are quite large, so closing them would require large increases in federal funding, even setting aside concerns about crowd-out. For example, Mississippi and Massachusetts both spend about what their respective per capita incomes would suggest, but the average student in poverty in Massachusetts lives in a district that spends about \$21,000 per pupil, while the average Mississippi student in poverty lives in a district that spends about \$12,600 (adjusted for differences in wages). A federal transfer program that substantially shrank this gap would send more than \$8,000 per pupil to Mississippi.

The amount that schools need to spend to fulfill their missions depends not only on student needs, but also on the prices of educational inputs, especially wages for staff. Both Title I and IDEA formulas use per pupil spending from state and local funding, known as state per pupil expenditure (SPPE) to proxy for geographic variation in prices. However, SPPE reflects variation in both quantities and prices of educational inputs. Its use in the formula means that more federal funds are directed to districts whose states already are investing more in education. Instead of using SPPE, policy makers could use a measure designed specifically for this purpose, such as the Compensating Wage Index for Teachers (CWIFT) developed by the National Center for Education Statistics.

Using Federal Funds to Leverage Changes in State School Finance Policy

Because the relative federal contribution to school spending is small, policy makers are interested in using federal funds as leverage to encourage changes in state policies that affect state (and local) contributions to spending. This could take two forms: (1) requiring states or local districts to meet specific policy conditions to receive federal funds, or (2) using matching grants that vary the amount of federal funding as a function of state and/or local spending.

Conditional federal funding has so far involved policies about how education is delivered, rather than how it is funded. For example, under the No Child Left Behind Act of 2002, states had to develop test-based accountability programs, and in the 1960s, districts had to comply with the Civil Rights Act by desegregating to receive funds (Cascio et al. 2010). Federal policy makers could use conditional funding to encourage state and local governments to spend more and/or distribute funding differently. For example, they could condition funding on the adoption or elimination of specific school finance policies, or structure a tournament to promote desired policies. But such approaches would require policy makers to identify which specific state policies are more likely to achieve desired outcomes; unfortunately, there is not a consensus among researchers or advocates about which policies should be incentivized. Further, state school finance systems are complex and vary across states; the best approach may depend on the existing system and could therefore be different in each state. For these reasons, the conditional funding approach is unlikely to improve equity in school finance.

Instead of making grants conditional on other policies or actions, the federal government could match state or local spending at a defined rate, allowing recipient jurisdictions to spend more than they raise from state or local sources. For example, the federal government might give school districts \$0.25 for every dollar they spend, or target the match to encourage particular types of spending (e.g., school building funds). Because matching grants provide an incentive for states and school districts to raise more revenue, they are less susceptible to crowd-out than the formula grants described earlier, though matching grants targeted to specific types of spending could be subject to crowd-out (Baicker and Staiger 2005). The simplest version of a matching program would likely be regressive, giving more funding to high-spending states, which tend to be higher income (as shown in figure 2). To mitigate this, federal policy makers could vary the match rate based on state fiscal capacity. For example, the match rate for traditional Medicaid is higher in states with lower per capita income.

THE EDUCATION INCENTIVE FINANCE GRANT

The original Title I formula awarded federal funds per “formula count” child (primarily school-aged children living in poverty), with the funding per formula count child varying based on SPPE. Congress has since tweaked the basic grant formula and added three more formulas (all four are described in detail in Gordon and Reber [2023]). In FY 2021, Congress appropriated more than \$16 billion, or about \$1,900 per child living in poverty, to Title I.

The EFIG formula was designed and passed in 1994 and first funded in 2002; in FY 2021, EFIG accounted for \$4.3 billion, about one quarter of total Title I funding. Federal policy makers incorporated matching components into the formula hoping to influence the average level and the distribution of state and local funding across districts within a state. The EFIG formula uses two additional state-specific factors called the Effort Factor and the Equity Factor. These factors create implicit match rates and are intended to create incentives for states to increase average spending (effort) and influence the distribution of funding across districts (equity): Holding the other components of the formula constant, total EFIG funding for a state is proportional to the product of its Effort and Equity Factors. Although the Effort and Equity Factors depend on revenue from local as well as state sources, the incentives are meant to influence state policy since the actions of one district have a very small effect on the Effort or Equity Factors for the whole state.

We next describe the Effort and Equity Factors and use simulations to estimate the formula’s implied match rates. That is, we estimate how much more EFIG funding a state could expect for its districts if it increased state and local support for schools overall, or disproportionately for school districts serving children living in poverty.¹ We find the implicit match rates are exceedingly small, and therefore unlikely to influence state policy.

1. The amount of additional EFIG funding an increase in state and local spending would produce depends not only on how the change affects the state’s Equity and Effort Factors, but also on how much Congress appropriates for EFIG, as well as spending and formula counts in other states. Here we isolate the impact of changes in state and local spending in a single state through one factor at a time, holding all else constant.

Effort Factor

The Effort Factor is intended as an incentive for states to spend more on education. To explain the Effort Factor, we draw on the following (indented) text from Gordon and Reber (2023), with minor edits and updated data.

The Effort Factor captures the extent to which average state per pupil expenditure (SPPE) for schools, compared to per capita income (PCI), is higher or lower than the average for the United States overall, as in equation 1.

$$\text{Effort Factor} = \frac{\frac{\text{SPPE in the state}}{\text{PCI in the state}}}{\frac{\text{average SPPE for the US}}{\text{average PCI for the US}}} \quad (1)$$

States that have a ratio of SPPE to PCI that is higher than the national average will have an Effort Factor greater than one; states with a lower-than-average ratio of SPPE to PCI will have an Effort Factor less than one. The Effort Factor is capped at 0.95 and 1.05, which limits the impact on state EFIG allocations and the power of the incentive.

To illustrate how the fiscal incentive in the Effort Factor works, we describe how an increase in combined state and local funding for schools would have affected Mississippi's EFIG allocation. For FY21, we estimate Mississippi's Effort Factor at 0.980, and its districts received about \$61 million in EFIG funding. State and local spending in Mississippi was about \$4.1 billion per year for the three years that are averaged for the purposes of calculating the Effort Factor. If annual combined state and local spending in the state had been 1 percent higher in each of those three years, that would have increased Mississippi's Effort Factor to 0.990, which would have increased its EFIG allocation by about \$610,000. That is, **for each additional dollar Mississippi spent, it would get a match of 1.49 cents in additional EFIG money.** Further, the additional federal money would not be unrestricted; it must be distributed to districts and spent according to Title I rules. The amount of additional EFIG funding an increase in state and local spending would produce is also unpredictable and would be experienced with a significant lag.

For most states, the financial incentive to increase average spending is even weaker because of how the Effort Factor is capped. For states with uncapped Effort Factors less than 0.95 or more than 1.05, the Effort Factor used in the formula is 0.95 and 1.05, respectively. States that are well below or above the cap would have to increase (or decrease) their average spending substantially to change their EFIG allocation. For example, Idaho had an uncapped Effort Factor of about 0.77. For Idaho, even a 23 percent increase in spending would not have increased its EFIG allocation, since it would only bring its uncapped Effort Factor to the minimum of 0.95. Only after achieving that increase would Idaho begin to get the small implicit match described for Mississippi above (and the amount would depend on several other factors, including spending and per capita income in other states).

Mississippi's very low implicit match rate is actually the highest in the nation. Idaho is more representative: **Thirty-five states would receive no additional FIG funding if they increased state and local funding by 1 percent**, an implicit match rate of zero. No simple tweak to the FIG formula could make the match rate significantly higher, because total FIG funding is so small compared to total spending. Even a tenfold increase in FIG funding would only increase the match rates in Mississippi to 15 cents on the dollar.

Removing the minimum and maximum for the Effort Factor would ensure that all states face at least some incentive. However, policy makers face a fundamental trade-off when they attempt to incentivize higher spending with a match (or a conditional grant, for that matter). The goal is to get more resources to students in states that have low spending, but states that do not respond as much to the incentive—and choose to spend less relative to their fiscal capacity—also get less in federal funding; the federal funding accentuates rather than offsets spending disparities. Indeed, the caps on the Effort Factor are a way of moderating this relationship, but they also blunt the incentive effects. Uncapping the Effort Factor would mean more states would face a positive (though still small) match rate, but at the cost of transferring more federal funds away from districts who already suffer from low state spending conditional on income.

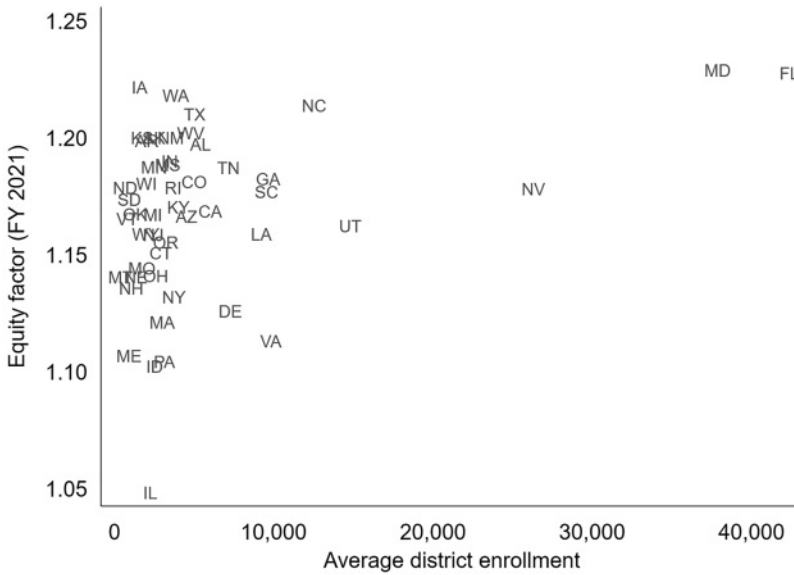
Equity Factor

The Equity Factor is a measure of how combined state and local spending varies across districts within a state. The goal is to reward states where the distribution of per pupil spending (from state and local sources) is more equal, under the assumption that state policy influences the distribution of state aid and/or how much local districts tax and spend.² To explain the Equity Factor in greater technical detail, we draw on the following (indented) text from Gordon and Reber (2023), with minor edits and updated data.

Determining whether the distribution of school spending across districts in a state is “equitable” is not straightforward, as there are both different conceptions of equity and different ways to measure it. One common approach is to use a measure of inequality or dispersion, which captures the extent to which per pupil spending varies across districts in the same state. Because inequality or dispersion measures do not take account of the characteristics of districts with higher or lower spending, these measures do not distinguish between spending inequality that is driven by higher spending among low-poverty districts versus spending inequality that is driven by higher spending among high-poverty districts. The FIG Equity Factor is 1.3 minus a weighted coefficient of variation of per pupil current expenditure (see Gordon and Reber 2023 or Sonnenberg 2016 for details): Lower variance generates higher Equity Factor values.

In states with fewer, larger districts, there will typically be more variance across schools within districts—and less variance between districts—than in states

2. The Equity Factor also influences how the state's total FIG allocation is distributed across districts in the state. We focus here on the total state allocation because we are interested in the incentive implied by the match rate related to the Equity Factor.



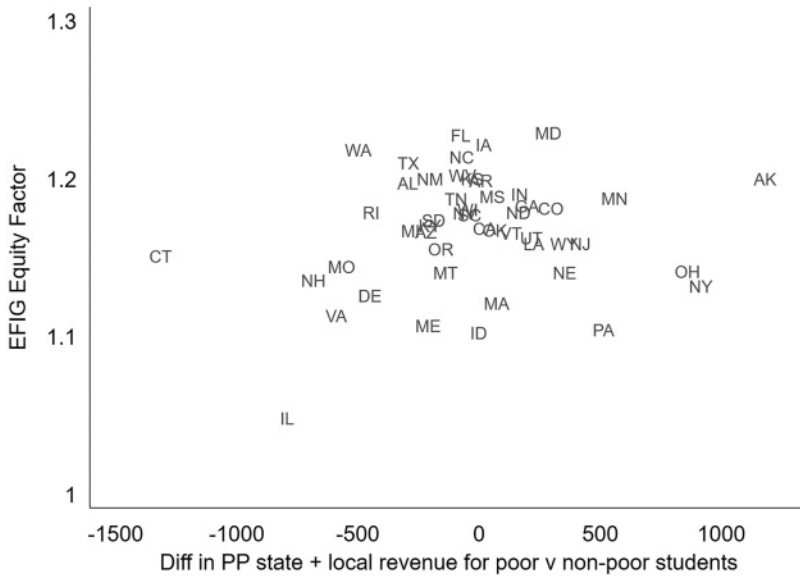
Notes: The vertical axis shows the Equity Factor used in EFIG allocations for FY 2021 as reported by the U.S. Department of Education. Average district enrollment is the unweighted average fall enrollment for 2019–20. See the online appendix for variable definitions and sources.

Figure 3. The Education Finance Incentive Grant (EFIG) Equity Factor Tends to Be Higher in States with Larger School Districts

with more, and smaller, districts. To understand this intuition, think of a large county-level district as an average of many small town-level districts. Much of the variation across the towns will be washed out in county-level data. Figure 3 shows that state Equity Factors are indeed positively correlated with average district size (as measured by enrollment) in the state. Average district size is largely historically determined, rather than a reflection of policy makers’ current actions and therefore influenced by incentives.

In contrast with inequality/dispersion measures, another approach to quantifying within-state equity is to measure the *progressivity* (or *regressivity*) of school spending. States where per pupil spending is higher in high-poverty districts are said to have a progressive distribution of per pupil spending. In most states, per pupil spending is either flat (unrelated to poverty) or progressive (Chingos and Blagg 2017; Lee, Shores, and Williams 2022). In states where spending is already flat or progressive, an increase in progressivity (which, arguably, increases “equity”) will register as an increase in inequality or dispersion (which may decrease “equity” on measures designed with that purpose in mind).

Figure 4 shows how one measure of progressivity—the difference in per pupil state and local revenue experienced by students in poverty (that is, the average weighted by enrollment of students in poverty) versus other students (the average weighted by enrollment of nonpoor students), on the horizontal axis—is unrelated to the state’s Equity Factor, on the vertical axis. Consider New York and Ohio, where state and local revenue per pupil in the average

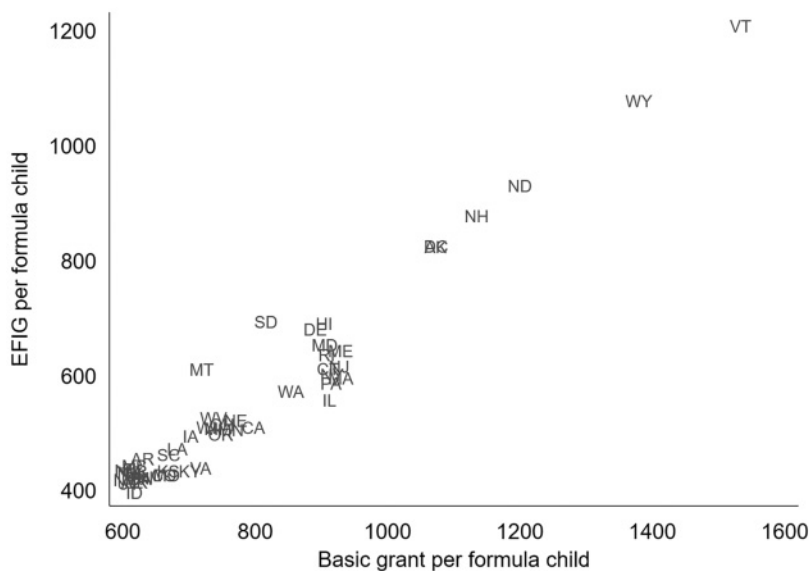


Notes: The vertical axis is the Equity Factor used in EFIG allocations for FY 2021 from data provided to us by the U.S. Department of Education. The horizontal axis is per pupil state and local revenue, weighted by the number of students living in poverty, less per pupil state and local revenue weighted by students not living in poverty; data are for 2019–20. See the online appendix for variable definitions and sources.

Figure 4. The Education Finance Incentive Grant (EFIG) Equity Factor is Not Higher in States with More Progressive School Finance Systems

poor student's district is more than \$850 higher than in the average nonpoor student's district. These states have more progressive allocations of state and local funds by this measure than all states but Alaska. Nonetheless both New York and Ohio are below average according to the EFIG Equity Factor.

How changes in spending patterns across districts in a state influence a state's Equity Factor is even more opaque than for the Effort Factor because the formula to determine it is more complicated. We simulated a scenario where combined state and local spending increased by \$4,000 per formula (poor) child in all districts in a state. Such a change would be a clear move toward greater equity—at considerable state expense. But it would produce very small and, sometimes, negative changes in the Equity Factor—and, therefore, in total EFIG allocations to states. In Connecticut, for example, increasing current spending by \$4,000 per formula child would increase its simulated Equity Factor from 1.15 to 1.17. As a result, Connecticut would receive a 1.1 percent increase in its EFIG allocation, representing a 0.0032 percent increase in the state's total education revenue. Connecticut would spend an additional \$279 million in state and local funding to receive an additional \$491,000 in EFIG funds, corresponding to a match of 0.18 of a cent to the dollar. Despite this low absolute magnitude, Connecticut has an unusually high implicit “match rate”; for twenty states, this increase in progressivity would reduce their EFIG allocations, though by a very small amount.



Notes: Figure shows EFIG and Basic Grant per formula child for FY 2021, based on data provided to us by the U.S. Department of Education.

Figure 5. Grants per Formula Child under Education Finance Incentive Grant (EFIG) and the Incentive-Free Basic Grant Are Highly Correlated

REFORMING EFIG TO BE MORE EFFECTIVE IS DIFFICULT

EFIG faces several serious challenges. First, the simulations above show that the financial incentives states face under EFIG are small. In addition, state policy makers may not understand the EFIG incentives nor know what policy changes would increase their EFIG funding. The formula is complicated and uses a three-year moving average of spending data up to five years out of date, making it difficult to see the relationship between changes in spending and changes in EFIG allocations.

The implicit match rates are so small, it is difficult to imagine state policy makers knowing about the match, much less associating changes in EFIG funding with their own actions—or being able to claim political credit for them. It is even less plausible that the Effort Factor would influence local districts’ taxation choices since those decisions have almost no effect on the state average per pupil spending and their own EFIG allocation. In media searches, we identified no coverage of state-level actors referencing the incentives in EFIG.³ Ultimately, **the state-level allocation of EFIG per formula child is nearly indistinguishable from that of the Title I basic grant, which is based on a far simpler incentive-free formula** (figure 5). These challenges reveal how difficult it is for federal policy to provide incentives for states to change their school finance systems.

WHAT CAN THE FEDERAL GOVERNMENT DO?

There is no way around the limited ability of the federal government to significantly reduce inequality of school funding, either by providing funding directly to school districts or by incentivizing state governments and local school districts to spend more,

3. We searched from 2002 through November 2022 using Nexis Uni, ProQuest News and Newspapers, NewsBank, and Google News, as well as Google.

given the key role of state governments under American federalism. When spending is low in a high-poverty school district, it is often because the district is in a state where spending is low for all districts. To fully close these gaps, spending in low-spending states would need to increase substantially, often by 50 percent or more. That level of federal funding would prompt serious concerns about crowd-out, and state and local control of schools.

Although completely closing the between-state gaps in funding available in school districts attended by children living in poverty is unrealistic, the federal government can adopt policies—for Title I and other programs—to reduce them. **We recommend federal grant formulas direct larger grants, all else equal, to districts in states with less fiscal capacity.** Currently, Title I grants per formula child do vary by state depending on average per pupil spending from non-federal sources (SPPE), a feature of the formula that was meant to adjust grants for state-level differences in educational input costs. But this approach gives smaller grants, all else equal, to lower-income states with less fiscal capacity, because fiscal capacity and SPPE are positively correlated (Gordon and Reber 2023). Instead of using SPPE to scale grants, the formula could use a function of (relative) state per capita income, for example:

$$\text{federal funds per formula child} = k \times \frac{\text{US per capita income}}{\text{state per capita income}}. \quad (2)$$

States with below-average fiscal capacity would get more federal funding, all else equal, and states with above-average fiscal capacity would get less (similar to how many states approach the distribution of state aid to school districts based on local fiscal capacity). The constant k and the amount appropriated determine the generosity of the program.⁴ Equation 2 is a template that could be modified based on policy goals. The count of “formula children” used could be based on children living in poverty and other disadvantaged groups (e.g., Title I’s Basic Grant), or it could be a weighted count of such children to direct more funding to districts with greater concentrations of poverty (e.g., Title I’s Targeted Grant). Similarly, funds could be awarded as a nonlinear function of relative per capita income. If policy makers want to provide more funding where input costs are higher, they could incorporate an adjustment for price differences in the formula as well using the CWIFT.

Finally, equitable funding alone will not create equitable American schools. The federal government is uniquely positioned to invest in research and development (which could cover a broad range of topics from curriculum and instructional practices to the effects of state school finance systems), provide public goods (like open-source high-quality instructional materials), and enforce civil rights laws.

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4. The current Title I Basic Grant formula incorporates a constant of 0.4, for example. But because the program is not fully funded, actual allocations in any year depend on appropriations as the formula-driven amount is ratably reduced. Formulas with special treatment for some districts, such as hold harmless or small state minima, in practice yield a different k for different districts.

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